Claims

I claim:

1. A method of testing performance of a receiver, the method comprising:

establishing a communication link between a transmitter and a receiver;

transmitting from the transmitter a signal bearing a predetermined message at a predetermined attenuation;

receiving the predetermined message at an antenna coupled to a receiver;

measuring the power of the signal received by the antenna at a point between the receiver and the antenna;

calculating a bit-error rate by comparing the receiver output to the predetermined message; and

determining receiver performance by evaluating the bit-error rate, the predetermined attenuation, and the received message power.

2. The method of claim 1 in which receiver is deployed in a communication network.

3. The method of claim 2 in which the communication network is a cellular network.

4. The method of claim 1 wherein the communication link is at least one selected from the group of a voice channel, a data channel, and a control channel.

5. The method of claim 1 further comprising:

increasing the magnitude of the predetermined attenuation until the communication link is dropped.

6. In a mobile communication network, comprising:

a radio base station receiver test system that transmits a predetermined message to a base station receiver at a predetermined attenuation, that measures received power at the antenna, that calculates the bit-error rate of the predetermined message received by the radio base station receiver, and determines receiver performance quality as a function of the bit-error rate, measured power and predetermined attenuation.

7. The system of claim 6 in which the communication network is a cellular communication network.

8. The system of claim 7 in which the cellular communication network is a GSM network.

9. In computer readable medium, a receiver testing application supporting field testing of base station receivers in a mobile communication network, comprising:

a routine for establishing a communication link between a transmitter and a receiver;

a bit-error rate detector routine that compares a received message to a predetermined message to determine errors in the received message;

a control routine for controlling transmission attenuation level of a signal bearing the predetermined message;

a communication routine for requesting measured power of received signals having the predetermined message; and

an evaluation routine for comparing the measured power, bit-error rate, and attenuation to determine receiver performance.

10. The medium of claim 9 in which the communication routine requests the measured power before the received message enters the receiver.

11. The medium of claim 9 in which the control routine increases the transmission attenuation level in response to the signal bearing the predetermined message.

12. The medium of claim 9 in which the communication routine requests the measured power from a power measurement device.

13. The medium of claim 9 in which the evaluation routine medium resides in a MSC test unit.

14. In a cellular communication network, a method of determining base station receiver performance, comprising:

transmitting a known message at a known attenuation level;

receiving the message at an antenna coupled to a base station receiver;

measuring the power of the received message;

transmitting the received message from the base station receiver to a network element;

calculating the bit-error rate of the received message at the network element; and

evaluating performance of the base station receiver by analysis of the bit-error rate in a plurality of received messages as a function of attenuation and received message power.

15. A receiver test unit, comprising:

a power measurement device;

an attenuator coupled to the power measurement device;

a mobile station; and

a controller coupled to the attenuator and the mobile station;

wherein, the controller is programmable to initiate a communication link via the mobile station to a remote device and transmit a predetermined message to said remote device.

16. The receiver test unit of claim 15, wherein the power measurement device is capable of being coupled between a receiver-under-test and the receiver-under-test's antenna.

17. The receiver test unit of claim 15, wherein the power measurement device measures the received signal power of the predetermined message at a point prior to a receiver-under-test's input.